

OPTICAL PICKUP DEVICE

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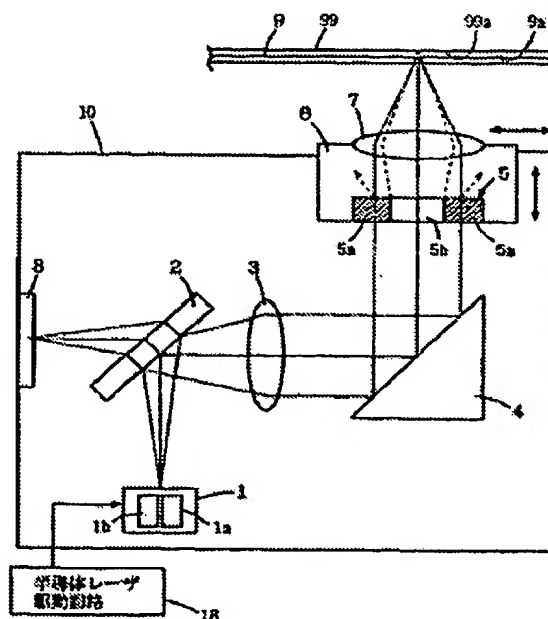
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Abstract of WO9819303

An optical pickup device has a semiconductor laser (1) which emits a laser beam (25) with a wavelength of 635 nm and a laser beam (27) with a wavelength of 780 nm selectively and an optical device (5) having a central region (5b) where a hologram (20) is provided and a circumferential region (5a) where a diffraction grating is provided. The optical device (5) is placed directly under an objective lens (7). The laser beam of 635 nm wavelength is transmitted through the central region (5b) but the diameter of the laser beam of 780 nm is increased by the diffraction. The laser beam of 635 nm wavelength is transmitted through the circumferential region (5a) but the laser beam of 780 nm wavelength is substantially cut off by the diffraction. Therefore, the whole laser beam (25) of 635 nm wavelength enters the objective lens (7) and is focused on the signal recording surface (9a) of a DVD (26). On the other hand, the circumferential part of the laser beam (27) of 780 nm wavelength is greatly diffracted by the circumferential region (5a) of the optical device (5) and only its center part enters the objective lens (7) while its diameter is increased. As a result, the laser beam (27) of 780 nm wavelength is focused on the signal recording surface (99a) of a CD-R or a CD-ROM (31). Therefore, a DVD, a CD-R and a CD-ROM can be compatibly driven by the optical pickup device.



18 ... semiconductor laser driving circuit